UNCLASSIFIED PROCESSING GATE--27HOV70 TITLE--ACETYLCHOLINE. MOLECULAR MECHANISM OF ACTION -U-1/2 020

AUTHOR-(02)-MIKHELSON, M.YA., ZEYMAL, E.V.

COUNTRY OF INFO--USSR

SOURCE-- ACETYLCHOLINE. MOLECULAR MECHANISM OF ACTION LATSETILKHOLIN. O MOLEKULYARNOM MEKHANIZME DEYSTVIYA) LENINGRAD, NAUKA, 1970, 278 PP DATE PUBLISHED-----70

SUBJECT AREAS-BIOLOGICAL AND MEDICAL SCIENCES TOPIC TAGS--CHOLINERGIC, CHOLINESTERASE, NERVOUS SYSTEM

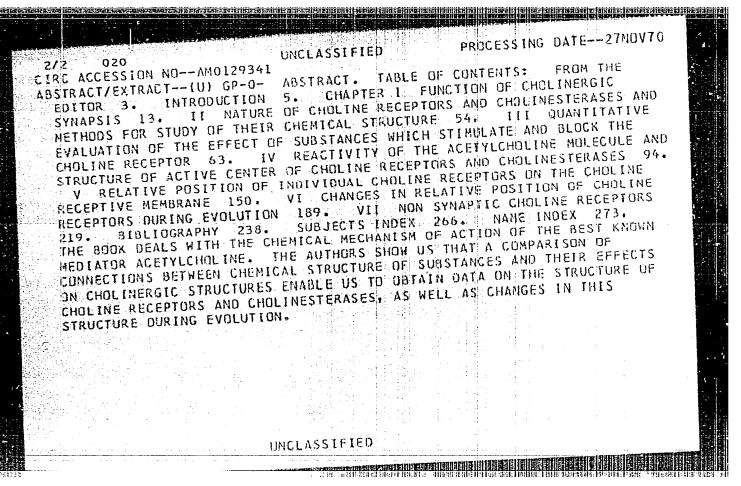
CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--3003/0008

STEP NO--UR/0000/70/000/000/0001/0278

CIRC ACCESSION NO--AMO129341

UNCLASSIFIED



#### CIA-RDP86-00513R002203810002-3 "APPROVED FOR RELEASE: 09/01/2001

USSR

UDC 621.315.592

ZHURAKOVSKIY, L. A., ZEYNALLY, A. KH., KOLOMIYETS, B. T., KRASIL'NIKOVA, V. A.

"Frequency Characteristics of Diode Structures of the Metal-Chalcohalide Glass-Metal Type"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 5, No 10, October 1971, pp 1917-1919

Abstract: A study was made of diode structures of the metal-chalcohalide glassmetal type (SbSI and AsTeI glass was used as the interstitial layer) with gold, silver, copper and antimony electrodes. These structures have static voltampere characteristics described by power functions with the exponent n varying from 1 to 3-5. The Au-SbSI-Au structure which has a static volt-ampere characteristic containing a segment of N-type negative resistance constitutes and exception. The frequency dependencies of the conductance and susceptance were measured in the frequency range from 0 to 10 megahertz. In the low-frequency range the conductance does not depend on the frequency, but in the high frequency range the conductance depends approximately linear on frequency. The capacitance of the diode structures is constant at low frequencies, and it decreases with an increase in frequency.

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USSR

ZHURAKOVSKIY, L. A., et al., Fizika i Tekhnika Poluprovodnikov, Vol 5, No 10, October 1971, pp 1917-1919

The experimental results are explained under the assumption that the conductance is of a discontinuous nature in the high frequency range and that equivalent schemes of the investigated diode structures are different at low and high frequencies. Graphs are presented for the capacitance of the Au-SbSI-Au diode structure as a function of the amplitude of the applied voltage taken at various frequencies. These relations confirm that at low frequencies the capacitance of the diode structure must depend on the injection level, that is, it must depend on the voltage amplitude and increases with an increase in the latter, and at high frequency the relation is not observed since the charge capacitance does not depend on the amount of injected charge.

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USSR

UNC: 621.315.592

REZDETNYY, N. M., GORBATOV, G. Z., ZEYNALLY and LEBEDEV, H. N., Azerbaydzhan State University imeni S. M. Kirov, Baku

"The Photo-EMF Spectral Distribution in ShSI"

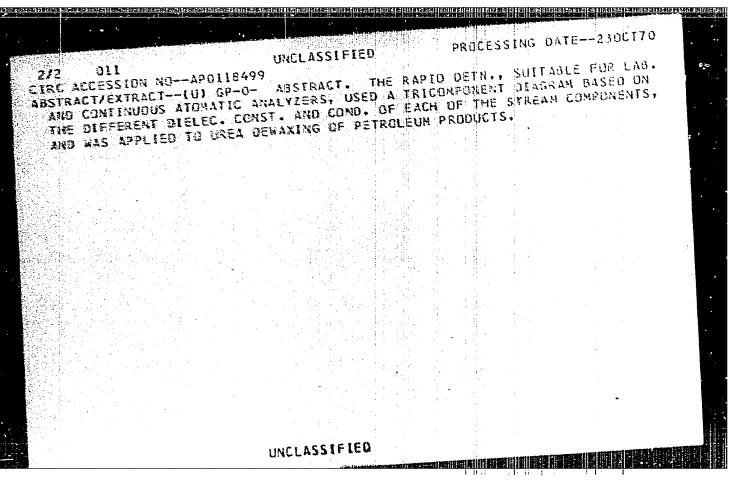
Leningrad, Fizika i tekhnika poluprovodnikov, vol 6, No 6, 1972, pp 1189-1190

Abstract: This brief communication is the consequence of an earlier article authored by some of those named above (Bezdetnyy, N. M., et al, FTT, 13, 1971, p 1242) in which it was shown that the near-surface illumination of SbSI layers using light from the maximum sensitivity region produces a voltage and the flow of short-circuit currents in the external circuit. These are caused by the bend in the zones at the ends of the specimen. In the present communication, the authors investigate the specimen. In the pretion of the photovoltaic output of the SbSI layers after dividing the specimens into two groups depending on the type of bending in the zones at the ends. The spectral distribution of both groups is shown.

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CIRC ACCESSION NO--APOL18499



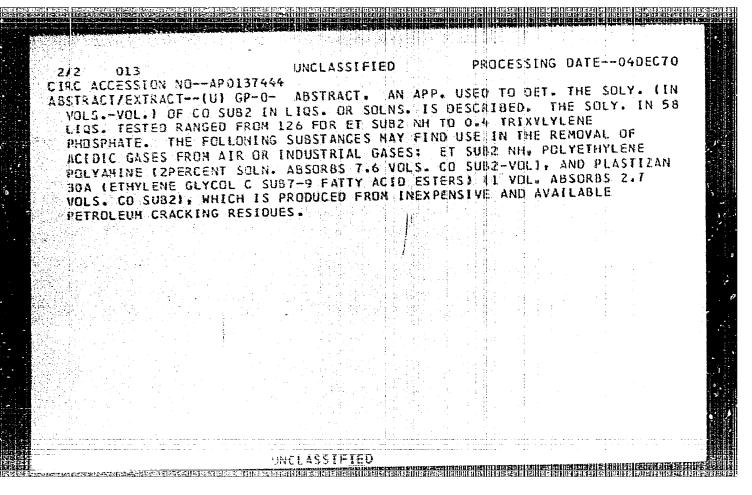
PROCESSING DATE--04DEC70 UNCLASSIFIED TITLE-SOLUBILITY OF CARBON DIOXIDE IN ORGANIC SOLVENTS -U-AUTHOR-(05)-PODVIGATEOVA, I.G., ZEYNALOV, B.K., KRUGLIKOV, A.A., RADZHABOV, D.T. SHAGIDANOV, E.N. COUNTRY OF INFO-USSR SOURCE-KHIN, PROM. (MOSCOW) 1970, 46(5), 338-9 DATE PUBLISHED ----- 70 SUBJECT AREAS--CHEMISTRY TOPIC TAGS-CARBON DIOXIDE. PETROLEUM HYDROCRACKING, PHOSPHATE, ORGANIC SULVENT, SOLUBILITY, PETROLEUM RESIDUE, XYLENE CONTROL HARXING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY RESLIFRANE--3008/0340

STEP ND--UR/0064/70/044/005/0338/0339

CIRC ACCESSION NO--APO137444

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1/2 025 TITLE--OIL ADDITIVES -U-

UNCLASSIFIED

PROCESSING DATE--04DEC70

AUTHOR-(05)-KULIYEV, A.M., ZEYNALDYA, K.A., SADYKHOV, K.I., SULEYMANOVA, COUNTRY OF INFO--USSR

SCURCE-BAKINSKIY RABOCHIY, SEPTEMBER 18, 1970, P 3, COL 3

DATE PUBLISHED--18SEP 70

SUBJECT AREAS--MATERIALS, BEHAVIORAL AND SUCIAL SCIENCES

TOPIC TAGS-LUBRICATING OIL, LUBRICANT ADDITIVE, CHEMICAL SYNTHESIS, PETROLEUM REFINING, HONORARY TITLE AWARD, CHEMICAL PERSONNEL/(U)BFK LUBRICATING OIL ADDITIVE, (U)SB3 LUBRICATING DIL ADDITIVE, (U)SK3 LUBRICATING OIL ADDITIVE, (U)AZNIIBU LUBRICATING OIL ADDITIVE, (U) INKHP21 LUBRICATING OIL ADDITIVE

CONTROL MARKING--NO RESTRICTIONS

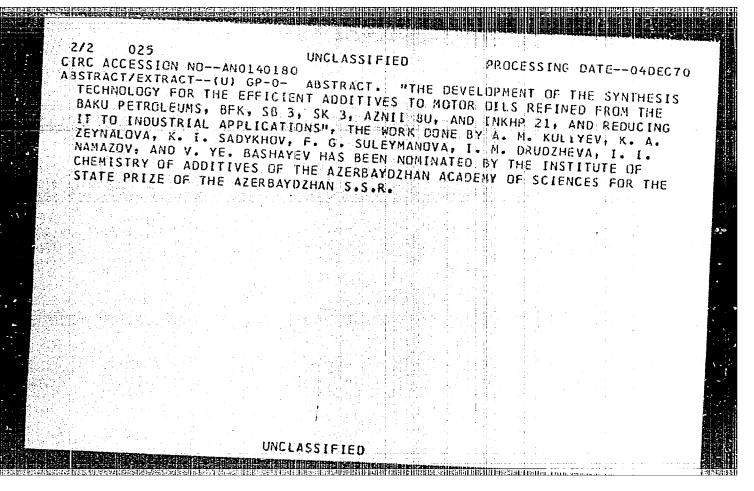
DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605011/809 STEP NO--UR/9000/70/000/000/0003/0003

CIRC ACCESSION NO--ANOI40180

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USSR

WC 591.1.15

GORKIN, V. Z., AKOPYAN, ZH. I., KULYGINA, A. A., and ZEYNALOV, T. A.

"Disturbances of Deamination of Some Nitrogen Compounds and a Nethod of

Byul. eksperim. biol. i med. (Bulletin of Experimental Biology and Medicine), 1971, 72, No 11. pp 42-45 (English summary) (from RZh-Biologicheskaya Khimiya, No 4, 25 Feb 72, Abstract No 4F1256 from summary)

Translation: White rats which had been x-irradiated (1000 rad dose) were used in the experiments. Diminution of monoaminoxidase activity, accompanied by the appearance of histamine and AMP deaminase activity, occurs in rat liver mitochondria after irradiation or intraperitoneal injection of oxidized oleic acid. Repeated injections of rate with adenozine-2'(3')-monophosphate result in normalization of these disturbances of the deamination of nitrogen compounds.

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**APPROVED FOR RELEASE: 09/01/2001** CIA-RDP86-00513R002203810002-3"

USSR

UDC 547.26'118.07

KULIYEV, A. M., ZEYNALOVA, G. A., KULIYEV, A. B., and RAGIMOVA, Sh. A., Institute of the Chemistry of Additives, Academy of Sciences, Azerbaydzhan SSR, Baku

"Synthesis of the Phosphorous Acid Esters Containing Trichloromethyl Group"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 7, Jul 73, pp 1497-1498

Abstract: Esters of phosphorous acid containing the trichloroacetyl group were synthesized by the reaction of hydroxyalkyltrichloroacetates with ethylenechlorophosphite or catecholphosphorous acid chlorides.

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USSR

UDC 547.26:118.07

KULIYEV, A. M., ZEYNALOVA, G. A., KULIYEV, A. B., RAGIMOVA, SH. A., Institute of Chemistry Additives of Academy of Sciences AzerSSR

"Synthesis of Certain Phosphite Esters With Trichloromethyl Group"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 10, 1971, pp 2209-2211

Abstract: In the search for antiwear additives to lubricating cils, 5-trichloroacetoxyethyl- and 3-trichloroacetoxybutyl-phosphorous acid chlorides and dichlorides were synthesized by the reaction of 3-hydroxyethyl- and 3-hydroxybutyl trichloroacetates with phosphorus trichloride. Also a series of P.P-dialkyl 3-trichloroacetoxyethyl phosphites were prepared by the reaction of 3-trichloroacetoxyethyl phosphorous acid dichloride with aliphatic alcohols in the presence of pyriding. The structure of the synthesized compounds was determined by their IR spectra, two of which are shown. Physical constants and formulas of the compounds are tabulated and preparation procedures are described.

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I/2 017 UNCLASSIFIED PROCESSING DATE--20NOV70
TLILE--PHOSPHCSULFURIZATION 0,0 BISALKYLPHENYL PHOSPHORODITHIDATE
PRODUCTION IN CONTINUOUS PILOT APPARATUS -UAUTHOR-(05)-URUDZHEVA, I.M., ZEYNALUVA, G.A., PULATOVA, SH..., NAMAZOV,
I.I., AGAUZHANOV, KH.S.
CGUNTRY GF INFO-USSR

SCURCE--AZERB, NEFT, KHGZ, 1970, (3), 35-7

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--LUBRICANT AUDITIVE, CHEMICAL SYNTHESIS, THIOL, PHOSPHATE
ESTER, BENZENE DERIVATIVE, ZINC OXIDE, BARIUM HYDROXIDE/(U)VNIINP354
LUBRICANT ACCITIVE, (U)VNIINP35G LUBRICANT ADDITIVE, (U)VNIINP360

CONTROL MARKING--NU RESTRICTIONS

DECUMENT CLASS—UNCLASSIFIED PROXY REEL/FRAME—3006/1797

STEP NG--UR/0487/70/000/003/0035/0037

CIAC ACCESSION NO--APO135362

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203810002-3"

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Plant Pathology

USSR

UDC 632.931:633.11

ZEYNALOVA, Yu. D., Aspirant, Kazakh SSR Agricultural Institute

"Harvest Losses of Wheat Due to Yellow Rust"

Moscow, Zashchita Rasteniy, No 10, 1971, p 19

Abstract: A study was made of the factors which caused the actual harvest of spring wheat to fall below the expected harvest in the mountainous areas of southeastern Kazakhstan in 1969. It was discovered that losses caused by yellow rust, which is frequently made the scapegoat, were actually several hundred percent less than losses caused by frost and lodging of the grain. It was also established that early sowing of the wheat (at the beginning of May) resulted in a significantly higher yield because the grain was affected less by all three of the above factors.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203810002-3"

USSR

UDC 616.981.718-078.7-031:611.778

TERENT'YEV, V. F., and ZEYTIENOK, M. A., Voronezh Medical Institute

"Significance of the Intradermal Allergic Test With Soluble Antigen From Rickettsia burneti to Epidemiological Studies of Q Fever Foci"

Moscow, Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 2, 1973,

Abstract: The toxicity and specificity of soluble Q fever antigen from Rickettsia burneti, when administered in the form of a skin allergy test, was compared with that of the CFR (complement-fixing reaction). Toxicity trials on 895 individuals proved that the skin test produced no undesirable local or general reactions. Tests on 60 individuals that had suffered Q fever 1.5 months compared previously indicated that the skin test becomes more sensitive than comparing reactions among 50 of the 60 individuals while the CFR was positive in skin tests on 150 patients with infectious illnesses other than Q fever with those on 237 residents of Voronezh, for which Q fever is not characteristic. The test was positive for only 4.0 percent of the patients and 3.4 percent of the residents. On the other hand tests on 697 individuals in areas for which Q-rickettsiosis is endemic were positive in 44.0 percent of the cases, while

USSR

TERENT'YEV, V. F. and ZEYTIENOK, M. A., Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 2, 1973, pp 70-74

the CFR was positive among 20.0 percent of 439 individuals. Finally a comparison of the sensitivity of the two tests at a meat-processing combine, where Q-ricketisiosis is highly possible, revealed that the skin test was 3 times more sensitive than the CFR. Thus the high specificity and sensitivity of the skin test, simplicity of administration and observation, absence of toxic reactions, and possibilities for employment in the field recommend this test for studies of Q-rickettsiosis foci and for diagnosis.

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USSR

VABROV, A. A., YEKIMOVA, V. A., and ZEVILINOK, N. A.

"The Effect of Dibazole on Interferon Activity", pp 62-64, Sintez Belka i Rezistentnost' Kletok, (Protein Synthesis and Cell Resistance), Lendingrad, "Nauka," 1971, 104 pp

Abstract: The results of this work indicate the stimulating effect of dibazole on the antiviral activity of the interferon inducer and of interferon in a culture of chick embryonic tissue.

USSR

VIL'NER, L. M., ZEYTLENOK, N. A., CHUMAKOV, M. P., KROPACHEV, V. A., and TRUKHMANOVA, L. B., Institute of Poliomyelitis and Viral Encephalitides, Academy of Medical Sciences USSR, Institute of High-Molecular-Weight Compounds, Academy of Sciences USSR

"Use of Synthetic Copolymers Derived From Vinylpyrrolidone for Interferon Induction and for Increasing Resistance to Viral Infections"

Riga, Fiziologicheski i Opticheski Aktivnyye Polimernyye Veshchestva, "Zinatne," 1971, pp 137-144

Abstract: Antiviral and interferon-inducing activities of copolymers of vinylpyrrolidone (VP) with crotonic acid (CA), crotonic aldehyde (CAL), and maleic anhydride (MA) were studied. Interferon activity was determined by intraperitoneal injection of mice with 0.5 ml. of copolymers of different concentration, followed by blood serum analysis. Analysis results showed that interferon titers were <16, 16, 32-24, 42, 128-155 for VP with CA; and <16, <16, 48, not determined, 188-252 for VP with MA 2, 4, 6, 8, and 24 hrs, respectively, after injection. Effectiveness of these copolymers was high if they were administered to mice prior to infection with tickborne encephalitis virus. However, all of them were ineffective if given to mice 24 hr after infection. Injection of a large group of mice infected with low doses

USSR

VIL'NER, L. M., et al., Fiziologicheski i Opticheski Aktivnyye Polimernyye Veshchestva, "Zinatne," 1971, pp 137-144

of tickborne encephalitis virus with less than 100 LD50 dose of copolymers tested showed that VP with CA (No 20) and VP with MA (No 2) possessed high antiviral activity (95 and 60% of mice survived). This means that copolymers with polyanionic structure were the most effective. With respect to mol. wt. the most active copolymers were those with 50  $\div$  200,000 mol. wt. and with characteristic viscosity of  $\sim 0.24$ -0.5 in 0.02 N HCl. Thus, in the case of VP with CA and MA a possibility was established of inducing interferon-production in animal blood by chemical means. Results were negative with chicken embryos and with cell cultures of chicken and mouse embryos.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203810002-3"

USSR

VDC 581.1.039

BIDZILYA, N. I., and ZEZIPA, N. V., Institute of Plant Physiology, Academy of

"Isolation of Plant Melanins and a Study of Their Radiation-Protective Pro-

Kiev, Fiziologiya i Biokhimiya Kullturnykh Rasteniy, Vol 3, No 1, Jan/Feb 71,

Abstract: The melanins of the skin of Vicia faba beans were extracted with hot water (fraction 1) and an 0.5 N solution of NaOH (fraction 2). Both fractions were characterized by means of spectra in the visible and UV ranges, IR spectra, and EPR spectra. Treatment of white mustard (Sinapis alba) seeds by Vacuum infiltration with solutions of melanins of fraction 1 in concentrations of 0.01, 0.02, and 0.03% followed by irradiation of the seeds with gamma rays in doses of 150 and 200 krad indicated that the melanins had a pronounced in the height of seedlings, and content of dry matter in seedlings vs. those for controls. The maximum protective effect was exerted by the 0.02% solution. degree. One may assume that the melanins were paramagnetic to a considerable binding of free radicals that were formed under the effect of gamma-irradiation.

USSR

UDC 59(093.32): 591.9(265)

HEKKER, V. E., ZEZINA, C. M., LEVENSHTEYN, R. Ya., and MEL'NIKOV, I. A., Institute of Oceanology, Academy of Sciences, USSR

"Zoological Studies During the 48th Voyage of the Scientific Research Ship Vityaz in the Central Part of the Pacific Ocean"

Moscow, Zoologicheskiy Zhurnal, Vol 50, No 6, Jun 71, pp 955-957

Abstract: A study was made of oceanic and ocean floor fauna of the Pacific Ocean over the Milwaukee banks, at Fiji, Tonga, Rarotonga, Auckland, Curtis Island, Penryn Atoll, and Honolulu. Two hundred and ten takes yielded 115 species belonging to 74 genera and 46 families, including some very rare specimens. Data were obtained on fishing grounds for blue fin and Pterolamiops longimanus sharks. Most numerous in the collections were flying fish of the Exocoetidae family and phosphorescent anchovies of the Myctophidae family (including the Diaphus regani caught at 1801' southern lutitude and 176043' eastern longitude, which had previously been classified among the west-equatorial species). Hatchlings and fingerlings of Exocoetus sp., Hirundichthys, and others were encountered on the surface of the water only during daytime, with fewer of their longer specimens caught during daytime, and still

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203810002-3"

USSR

REKKER, V. E., et al., Zoologicheskiy Zhurnal, Vol 50, No 6, Jun 71, pp 955-957

larger ones -- only at night. The greatest abundance of fingerlings was found in the regions where the northern and southern tropical currents meet, and the poorest catches were in equatorial waters. See bottom investigations in the low-productivity oligotrophic areas of the Pacific Ocean confirmed the general sparseness of fauna, with a predominance of Foraminifera, small glass sponges, Scyphozoa, and Serpulidae. A general similarity of the fauna of the Tonga and Kermadek trough was revealed, with several live species found in the Tonga basin for the first time. Biochemical investigations and quantitative analyses of easily assimilated organic substance of the superficial layer of deep-water sediment were also done.

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- 12 -

1/2 018 TITLE-EFFECT OF THE PARAMAGNETISM OF CONJUGATED POLYMERS AND THEIR PROCESSING DATE--090CT70 COMPLEXES ON NMR SPECTRA AND MACROMOLEULAR MOTION -U-

AUTHOR-(05)-MAKLAKOV, A.I., SHEPELEV, V.I., GOLDGAMMER, K.A., ZGADZAY,

COUNTRY OF INFO--USSR

SOURCE-VYSOKUMOL. SOEDIN. SER. A 1970, 12(2), 394-400

DATE PUBLISHED -----70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--PARAMAGNETISM, CONJUGATED POLYMER, COMPLEX COMPOUND, MACROMOLECULE, SCHIFF BASE, PYRIDINE COMPLEX, ACETYLENE, ELECTRON SPIN,

CONTROL MARKING--NO RESTRICTIONS

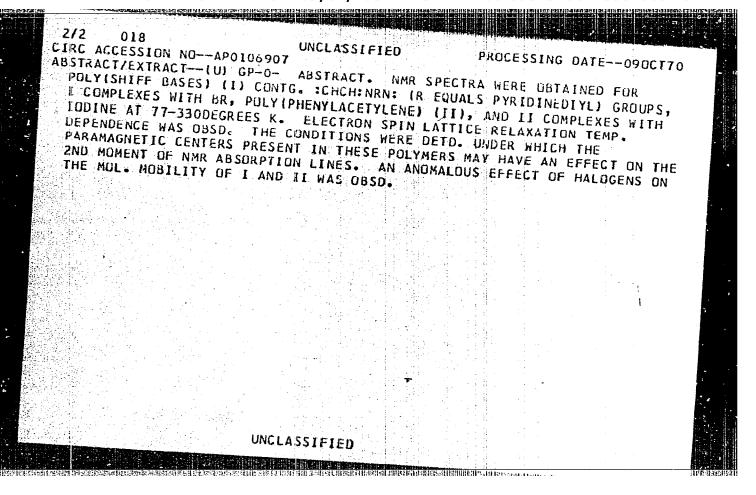
DUCLMENT CLASS-UNCLASSIFIED PROXY REEL/FRAME--1989/0251

STEP NO--UR/0459/70/012/002/0394/0400

CIRC ACCESSION NO-APOLO6907

UNCLASSIFIED

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UDC 677.494.745.32-96.021.12

ZGIBNEVA, Zh. A., GELLER, A. A., GELLER, B. E., AHUNOVA, B. A., YUNUSOV, B. H., Tashkent Institute of Textile and Light Industry

"Modifications of Polyacrylonitrile Fibers With Organophosphorus Compounds"

Moscow, Khimicheskiye Volokna, No 6, 1973, pp 51-52

Abstract: Dimethyloxy-2,2,2-trichloro-1-hydroxyethylphosphonate (chlorophos) was used to treat a polyacrylonitrile fiber (92.2% acrylonitrile, 6.3% methyl acrylate). It was found that the amount of phosphorous adsorbed by the fiber followed a Langmuir curve, and that the limit of saturation of the fiber is determined by the size of the active internal surface of the fiber. Fiber treated with chlorophos was found to be less flammable, to have a lower glass transition temperature, lower coefficient of internal than the unmodified fiber. At temperatures up to 100°C, chlorophos acted to plasticize the fiber. The physico-mechanical properties of the fiber remained essentially unchanged by treatment with chlorophos.

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203810002-3"

USSR

UDC 677.494.745.32-96.004.14:661.183.123.2

ZGIBNEVA, Zh. A., GELLER, A. A., GELLER, B. E., POLOVNIKOVA, M. V., YERESHCHENKO, A. G., and GHOMENKO, R. I., Tashkent Institute of Textiles and Light Industry

"Fibrous Cation Exchange Materials Based on Nitrona"

Moscow, Khimicheskiye Volokna, No 5, 1973, pp 7-9

Abstract: The high chemical stability of the hydrocarbon chains of polyacrylonitrile and the high reactivity of the nitrile groups may be used to prepare ion exchange materials based on the polymers and copolymers of acrylonitrile fibers. The reaction is base catalyzed. Temperature and concentration were determined which would optimize the physical mechanical properties of the obtained fibers. The ion-exchange capacity ranged from 0.3 to 3 meq/g, the higher values generally occurring at high temperatures or high concentrations of NaOH. Intense chemical modification in the polymer chain occurred during the saponification process. These changes were examined using IR spectra and thermograms. The principal reaction path for the base saponification of the copolymer was the hydrolysis of the nitrile and the mixed-ester groups.

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UNCLASSIFIED PROCESSING DATE--300CT70

TITLE--VALVES OF THE HUMAN AZYGOS VEIN -U
AUTHOR--ZGRIVETS, S.G.

COUNTRY OF INFO--USSR

SOURCE--ARKH ANAT GISTUL EMBRIOL 58(2): 79-82. ILLUS. 1970

DATE PUGLISHED----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BLOGD VESSEL, PALATE, VALVE, ANATOMY

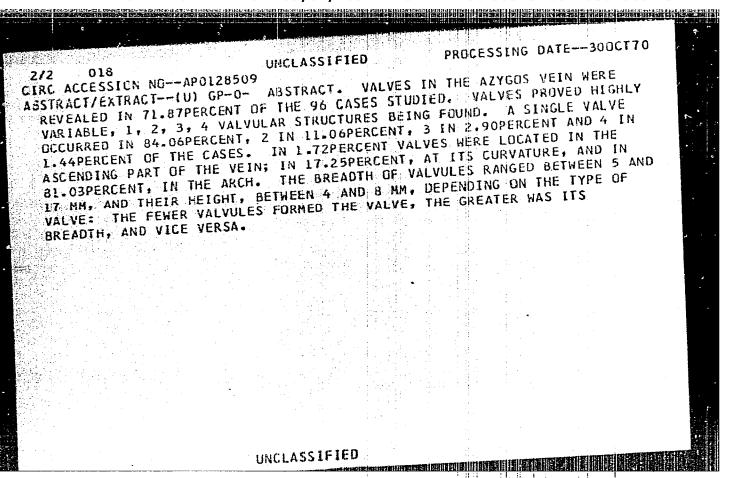
CONTROL MARKING-NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--3002/1082

STEP NO--UR/9076/70/058/002/0079/0082

CIRC ACCESSION NO-APO128509

UNCLASSIFIED



USSR

UDC 669.046.5

KHARITONOV, A. S., ZGUR'EV. I. I., MASLOVA, Yu. N., BUKINA, A. F., and BARANOVA, V. G.

"Out-of-Furnace Liquid Steel Degassing by Powder-Like Materials"

Moscow, V sb. "Sovremennyye problemy kachestva stali" (MISiS) (Collection of Works, Modern Problems of Steel Quality) (Moscow Institute of Steel and Alloys), Izd-vo "Metallurgiya," No 61, 1970, pp 266-267

Translation of Abstract: Data are presented on liquid steel treatment by solid powder-like materials whose boiling temperature is lower than that of steel. Characteristics of the degassing agent (sodium chloride), of the treated 20L steel, melted in a basic 5-ton arc furnace, and of the pre-dried gas carrier (carbon dioxide) are presented. The degree of degassing (47%) with a 1.5 kg/ton sodium chloride consumption is indicated. Consideration is given to the reduction of nonmetallic inclusions and to the improvement of plastic properties in metal refining by sodium chloride. 4 tables.

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1/2 015 TITLE--CHLOROPHYLL CONTENT AND THE RATE OF CELL DIVISION IN SOME ALGAE UNCLASSIFIED PROCESSING DATE--04DECTO DEPENDING ON THE PROVISION OF NUTRIENT MEDIA WITH PHOSPHORUS -U-AUTHOR--ZGUROVSKAYA, L.N.

COUNTRY OF INFO--USSR

SOURCE-KIEV, GIDROBIOLOGICHESKIY ZHURNAL, VOL 6, NO 1, 1970, PP 51-56.

DATE PUBLISHED ---- 70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ALGAE, CHLOROPHYLL, PHOSPHORUS, NUTRITION, PLANT GROWTH

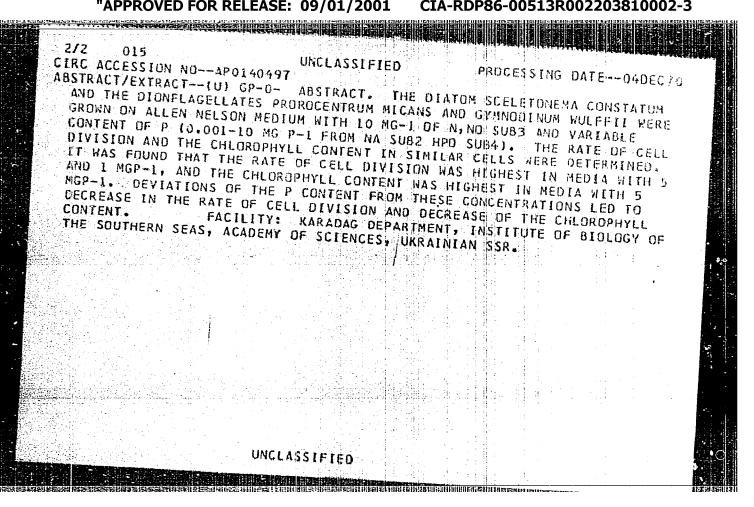
CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY FICHE NO----F070/605014/007 STEP NO--UR/0474/70/006/001/0051/0056

CIRC ACCESSION NO--APO140497

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203810002-3"



USSR

ZGUROVSKAYA, L. N., Karadag Department, Institute of Biology of the Southern Seas, Academy of Sciences, Ukrainian SSR

"Chlorophyll Content and the Rate of Cell Division in Some Algae Depending on the Provision of Nutrient Media with Phosphorus"

Kiev, Gidrobiologicheskiy Zhurnal, Vol 6, No 1, 1970, pp 50-56

Abstract: The diatom Sceletonema costatum and the dionflagellates Prorocentrum micans and Gymnodinium wulffii were grown on Allen-Prorocentrum micans and Gymnodinium wullfill were grown on Allen-Nelson medium with 10 mg/l of N-NO3 and variable content of P (0.001-10 mg P/l from Na<sub>2</sub>HPO<sub>4</sub>). The rate of cell division and the chlorophyll content in Similar cells were determined. It was found that the rate of cell division was highest in media with 5 and 1 mgP/l, and the chlorophyll content was highest in media with 5 mgP/l. Deviations of the P-centent from those concentrations lodge decreases. tions of the P-content from these concentrations led to decrease in the rate of cell division and decrease of the chlorophyll content.

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USSR

UDC 621.357

# ZGURSKIY, V. A.

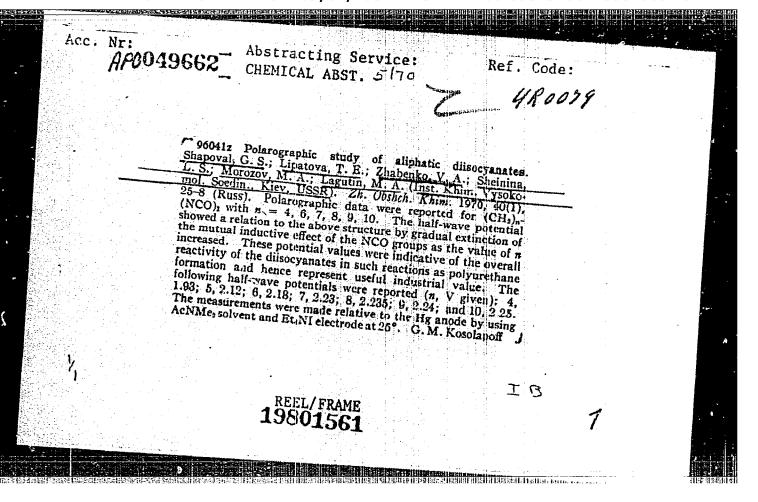
"Means of Specialization of Galvanic Production"

Tekhnol. i Organiz. Proiz-va. Nauch-proizv. sb. [Technology and Organization of Production, Scientific and Production Collection], No 5, 1971, pp 17-19, (Translated from Referativnyy Zhurnal, Khimiya, No 3, 1972, Abstract No 3 L342 by Ye. I. Khrushcheva).

Translation: In order to increase the economic effectiveness of galvanic production, it is suggested that a specialized galvanic enterprise be created, to serve a union or group of enterprises located in a single industrial center or economic region. The need for creation of specialized enterprises is dictated by the system of concentration of industrial production in large centers. A formula is suggested for determination of the total economic effect to be achieved by taking steps for the concentration of galvanic production. The economic effect of a specialized galvanic enterprise serving eight individual enterprises in an economic region with a radius of 50 km and an annual consumption of galvanic coatings with a total area of 440,000 m², calculated by this formula, is 348,800 rubles.

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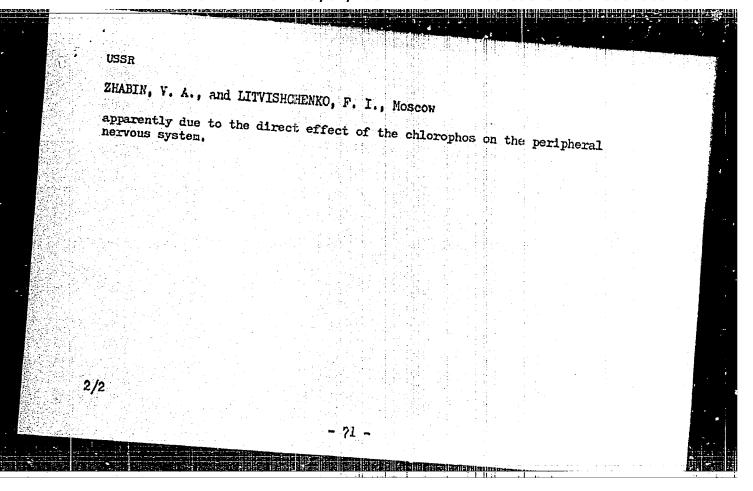
UDC 615.285.7-099-07

ZHABIN, V. A., and LITVISHCHENKO, F. I., Moscow

"Case of Chlorophos Intoxication"

Kiev, Vrachebnoye Delo, Vol 53, No 3, pp 143-144

Abstract: A case of chlorophos intoxication caused by ingesting a third of a glass of the preparation in 200 g of water is described. Within 10-12 min after intake, acute asthenia and a blue haze before the eyes developed, followed by loss of consciousness. The woman patient was hospitalized. Consciousness was regained within seven hours, with the patient complaining of extreme weakness and severe pains in the leg muscles. Her condition became aggravated on the next day by deep depression, constant fear of death, and occasional mental inchoherence. By the sixth day the patient's condition began to improve, and on the 12th day she was discharged from the hospital. A few days after her discharge from the hospital the patient began to develop neurological symptoms, and after an examination was agains hospitalized and placed in a neurological section. Treatment consisted of injections of vitamins B, and B,2, proserine and adenosine triphosphate intranuscularly, nicotinic acid, dibazol, massage, diathermy, and therapeutic exercises. Improvement began on the ninth day; on the 12th day after the second hospitalization the patient was again discharged from the hospital. Polyneuritis in the case was 1/2



USSR

UDC 621.316:65.012.122

MAMEDYAROV, O. S., ZHABINSKIY, YU. V., ISMAYLOVA, T. A.

"Application of the Method of Experimental Planning for Optimizing the Operat-

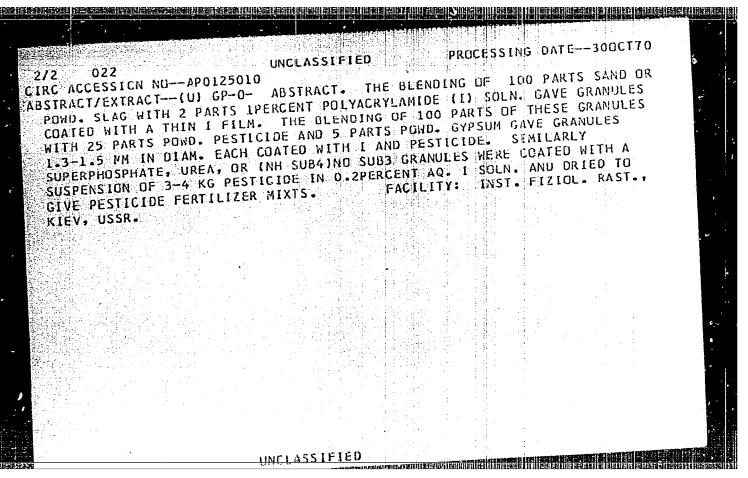
Tekh. tereggi ugrunda, Za tekhn. progress (For Technical Progress), 1970, No 11, pp 12-14 (from RZh-Elektrotel:hnika i Energetika, No 4, Apr 71, Abstract No

Translation: For the standard distribution network, the problem of insuring minimum active power losses consists in determining the location and power of the reactive power losses when defining the feed voltage regulation laws. Restrictions are given in the form of tolerances of voltage deviations from the rated voltage at the buses of all the consumers. There are 2 illustrations and a Engineering, Baku) [Azerbaydzhan Scientific Research Institute of Power

1/1

- 129 -

022 1/2 TITLE-USE OF POLYACRYLAMIDE FOR THE GRANULATION OF PESTICIDES -U-PROCESSING DATE-300CT70 AUTHOR-(02)-ZHABITSKIY, P.F., MUSICH, V.N. COUNTRY OF INFO-USSR SOURCE-KHIM. PROM. UKR. 1970, (1), 19 DATE PUBLISHED----70 SUBJECT AREAS—BIOLOGICAL AND MEDICAL SCIENCES, AGRICULTURE TOPIC TAGS-PESTICIDE, POLYACRYLAMIDE RESIN, FERTILIZER, GRAIN SIZE, UREA, CENTREL MARKING-NO RESTRICTIONS DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--2000/1362 STEP NO--UR/0436/70/000/001/0019/0019 CIRC ACCESSION NO-AP0125010 UNCLASSIFIED 



1./2 TITLE--A NONLINEAR CERAMIC DIELECTRIC -U-AUTHOR-(05)-DIOKOVSKAYA, O.S., ZHABKINA, G.I., BRONNIKOV, A.N., SHVORNEVA, PROCESSING DATE-160CT70 L.I., KLIMOV, V.V. SOURCE-U.S.S.R. 262,201 REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970, SUBJECT AREAS--MATERIALS TOPIC TAGS--PATENT, CERAMIC DIELECTRIC, NONLINEAR SYSTEM, LEAD, TITANATE, CONTROL MARKING-NO RESTRICTIONS DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1990/1784 STEP NO--UR/0402/70/000/000/0000/0000 CIRC ACCESSION NO--AA0109745 UNCLASSIFIED 

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Molecular Biology

USSR

DESHCHEREVSKTY, V.I., ZHABOTINSKTY, A.M., SEL'KOV, YE.YE., SIDORENKO, N.F., and SHNOL', S.E., Institute of Biophysics, Academy of Sciences USSR

"Oscillating Biological Processes on the Molecular Level"

Moscow, Biofizika, Voll5, No 2, 1970, pp 225-234

Abstract: One important task of modern biophysics is to investigate conditions under which escillations may occur on various levels. Some oscillations represent a normal functional state of a system (myocardial fibers), while other oscillations represent an abnormal (pathological) state. Oscillating processes have been investigated in single-enzyme, multi-enzyme, and model catalytic systems, in colloidal systems, and in a system with a strict structural organization: stristed muscle. A catalytic reaction is a repetitive cyclic process: each enzyme molecule forms a complex with the substrate, induces a reaction, and returns to its initial state. Solutions of actomyosin display configurational oscillations involving reversible shifts in the ATPase activity in the absence of the ATP, which arrests these oscillations. Multi-enzyme systems in cells involve hundreds of biochemical reactions and various control mechanisms, which regulate the activity of enzymes, the speed of their synthesis and destruction, the permeability of biological membranes, and so on. These mechanisms can also disrupt the equilibrium 1/2

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203810002-3"

DESHCHEREVSKIY, V.I., et al, Biofizika, Vol 15, No 2, 1970, pp 225-234

of biochemical systems and cause fluctuations in the concentration of reacting substances. Liquid-phase models of enzymatic reactions yield reproducible results and are used to investigate the spatial synchronization of oscillations. A specific situation arises in mechanical chemistry: the enzymatic breakdown of ATF changes the mechanical state of the muscle, which in turn affects the speed of this reaction. Further studies of oscillating processes may contribute to our understanding of the following phenomena: the mechanism of enzymatic catalysis; the nature of control mechanisms in multi-enzyme systems; the molecular kinetic basis of biological motility; and the cause of morphological organization in initially homogeneous systems.

2/2

1/2 022 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--CONCENTRATION WAVE PROPAGATION IN TWO DIMENSIONAL LIQUID PHASE
SELFOSCILLATING SYSTEM -UAUTHOR-(02)-ZAIKIN, A.N., ZHABOTINSKIY, A.M.

CCUNTRY OF INFO--USSR

SOURCE--NATURE (LONCON) 1970, 225(5232), 535-7

DATE PUBLISHED ---- 70

SUBJECT AREAS -BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY

TUPIC TAGS-BREMATE, MALONIC ACID, CATALYST, OXIDATION, HAVE PROPAGATION, REDOX REACTION

CONTROL MARKING-NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1984/1348

STEP NO--UK/0000/T0/225/000/0535/0537

CIRC ACCESSION NO--APO100C11

LACLASSIFIED

2/2 022 UNCLASSIFIED CIRC ACCESSION NO--APOIGOOLI PROCESSING DATE-- 20NOV7U ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A STUDY ON USCILLATING CHEM. REACTIONS IN THE SYSTEM BROMATE BROMOMALONIC ACTO FERROIN LINDICATOR AND CATALYST) WAS MADE. THE REACTION WAS CARRIED OUT IN A THIN LAYER OF PHOTOGRAPHS WERE TAKEN AT I MIN INTERVALS. IN THE IST PHOTOGRAPH, THE CATALYST IS COMPLETELY REDUCED, AND SUBSEQUENT PHOTOGRAPHS SHOW IT STARTING TO BE OXIDIZED AT PARTICULAR POINTS (LEADING POINTS) FROM WHICH CIRCULAR WAVES OF OXION. ARE PROPAGATED. THE 4TH PHOTOGRAPH SHOWS OXIDN. TAKING PLACE IN AREAS NOT REACHED BY THESE WAVES. THE NEXT PHOTOGRAPHS SHOW WAVES COMING FROM LEADING CENTERS UXIDIZING ALL THE SPACE STEP BY STEP. RADIAL SYM. PATTERNS ARE ALSO OBSD. THE OBSD. PHENOMENON IS CHARACTERIZED BY THE OCCURRENCE OF PROGRESSIVE CONCN. WAVES AND BY A SPACE STRUCTURE SUPPORTED AT THE EXPENSE OF REDOX REACTION ENERGY. A MODEL FOR THE WAVE PROPAGATION IS

USSR

UDC: 621.375.7

ZHABOTINSKIY, M. Ye. (Reviewer)

Kvantovyye Usiliteli SVCh (Mazery) [Quantum Microwave Amplifiers (Masers)] by V. B. Shteynshleyger, G. S. Misezhnikov and P. S. Lifenov, published by "Sovetskoye Radio", 1971, 432 pp

Moscow, Radiotekhnika i Elektronika, Vol 17, No 9, Sep 72, p 2001

Abstract: The book combines an exposition of maser physics with the engineering theory of masers. Important information is given not only on paramagnetic crystals, cavity resonators and decelerating systems, but also on expostats closed-cycle refrigeration equipment for helium and intermediate development and use of low-power microwave amplifiers. Therefore the main combining masers with antenna systems, and measurement of the principal physics of paramagnetic phenomena, electrodynamics and statistical radio physics. There is no index.

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USSR

UDC 546.661

GAYDUK, M. I., GILYAROV, O. N., ZHABOTINSKIY, M. YE., ZOLIN, V. F., KROTOVA, L.V. (DECEASED) KULIKOVSKIY, B. N., LEBEDEV, V. G., and ELLERT, G. V., Institute of General and Inorganic Chemistry imeni N.

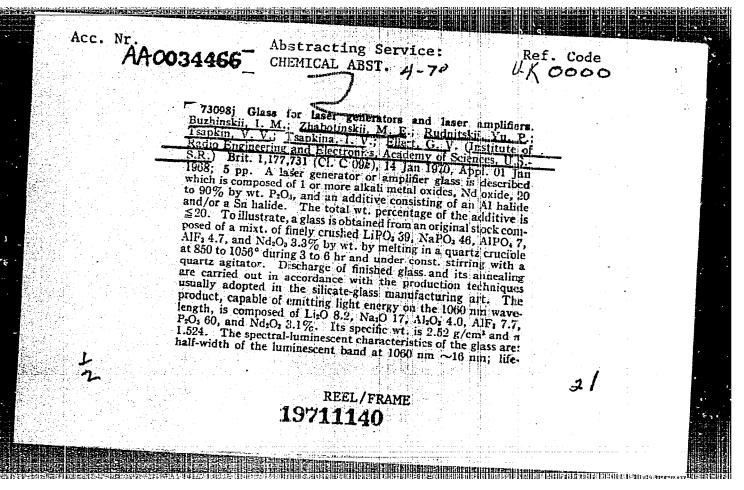
"Luminescence Centers in Solutions of Rare Earth Elements in Phosphorus and Selenium Oxychlorides at 770 Km

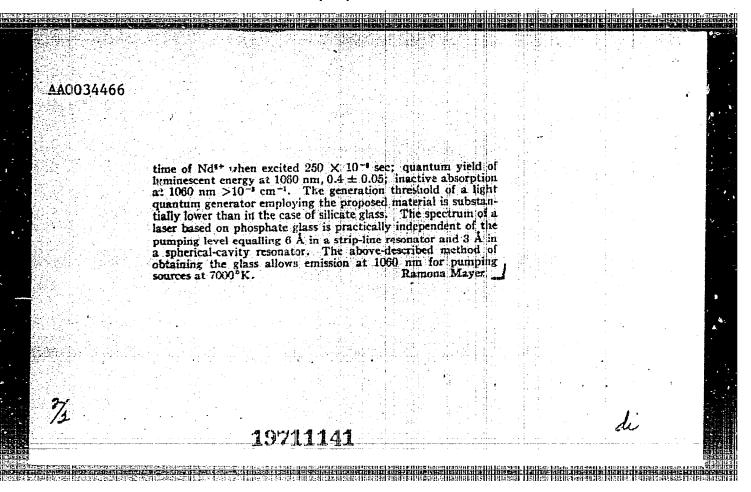
Moscow, Izvestiya Akademii Nauk SSSR, Vol 6, No 7, Jul 70, pp 1276-1280 Neorganicheskiye Materialy,

Abstract: The article considers the dependence of the relative concentrations of luminescence centers on the composition and conditions for the preparation of europium solutions in phosphorus and selenium oxychlorides with tin tetrachloride. The luminescence spectra of the isolated centers are analyzed on the basis of crystal field theory.

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1/2 031 UNCLASSIFIED PROCESSING DATE--300CT70
TITLE--RADIATION CATALYTIC ACTIVITY OF DIAMOND AND GRAPHITE -U-

AUTHOR-(05)-VLADIMIROVA, V.I., ZHABROVA, G.M., KADENATSI, B.M., KRIVENKOVA, P.G., BUTUZOV, V.P.

SOURCE-KHIM. VYS. ENERG. 1970, 4(2), 182-3

DATE PUBLISHED ---- 70

SUBJECT AREAS--CHEMISTRY, NUCLEAR SCIENCE AND TECHNOLOGY, EARTH SCIENCES AND DECANOGRAPHY
TOPIC TAGS--CATALYST ACTIVITY, DIAMOND, GRAPHITE, METHANOL, GAMMA

TOPIC TAGS--CATALYST ACTIVITY, DIAMOND, GRAPHITE, METHANDL, GAMMA RADIATION, FORMALDEHYDE, ETHYLENE GLYCOL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1997/0748

STEP NO--UR/0456/70/004/002/0182/0183

CIRC ACCESSION NO--APOL19655

UNCLASSIFIED

#### CIA-RDP86-00513R002203810002-3 "APPROVED FOR RELEASE: 09/01/2001

2/2 031 UNCLASSIFIED PRUCESSING DATE--- 300CT70 CIRC ACCESSION NO--APOLL9655 ASSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DIAMOND AND GRAPHITE WERE STUDIED TO DET. THEIR ACTIVITY IN DIFFERENT ELECTRONIC CONFIGURATIONS. SYNTHETIC AND NATURAL DIAMONDS WERE USED. THE SURFACE OF ALL SAMPLES HAS INCREASED BY VIBRATION GRINDING. THE SAMPLES WERE PURIFIED WITH HCL AND DRIED AT 120DEGREES. THE RADIATION CATALYTIC ACTIVITY WAS DETD. BASED ON THE TRANSFORMATION OF MECH TAKING PLACE IN AN ABSORBED LAYER AT ROOM TEMP. THE SAMPLES WERE DEGASSED AT 400DEGREES AND MEDH VAPORS WERE ADSORBED ON THEM BY COOLING THEM TO ROOM TEMP. THEN THE SAMPLES WERE IRRADIATED WITH PRIMEGO CO GAMMA RAYS, AND THE PRINCIPAL PRODUCTS FORMED WERE CH SUB2 O AND ETHYLENE GLYCOL. THE TOTAL PRODUCTS FORMED EXCEEDED BY A FACTOR OF 100 THE TOTAL OBTAINED BY THE HOMOGENEOUS RADIOLYSIS OF MECH. THUS DIAMONDS WITH A WIDTH OF THE FORBIDDEN BAND OF 7 EV TRANSFER ENERGY WELL. NO DIFFERENCE IN ACTIVITY WAS FOUND BETWEEN SYNTHETIC AND NATURAL DIAMONDS. GRAPHITE DID NOT TRANSFER, THE ABSORBED ENERGY. FACILITY: INST. KHIM. FIZ., MOSCOW, USSR.

CIA-RDP86-00513R002203810002-3"

APPROVED FOR RELEASE: 09/01/2001

1/2 UNCLASSIFIED PROCESSING DATE--20NOV70 TITLE-THE TREATMENT OF EARLY CARDIAC INSUFFICIENCY IN HYPERTENSIVE WASCULAR DISEASE -U-AUTHUR-(CZ)-YANGVSKIY, G.V., ZHADAN, 1.N. CCUNTRY UF INFU-LISER SOURCE--KLINICHESKAYA MEDITSINA, 1970, VUL 48, NR 4, PP 104-108 DATE PUBLISHED -----70 SUBJECT AREAS -- BICLOGICAL AND MEDICAL SCIENCES TURIC TAGS--HYPERTENSION, CORONARY BEUOD CIRCULATION, CARDIOVASCULAR DRUG CONTROL MARKINS--NO RESTRICTIONS DECUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--3004/0744 STEP NO--UR/0497/70/048/004/0104/0108 CIRC ACCESSION NO--APOISISS9 UNCLASSIFIED

S A	2/2 016  UNCLASSIFIED  FROCESSING DATE—20NUV70  BESTRACT/EXTRACT—(U) CP—C— ABSTRACT. IN ORDER TO ASCERTAIN WHETHER EFFECTIVE HYPOTENSIVE THERAPY IS CONDUCTVE TO THE ELIMINATION OF EARLY WITH THE SECOND AND IMIRD STAGE OF THE AFFECTION THE AUTHORS STUDIED THE SYSTOLE. IT WAS ESTABLISHED THAT REDUCTION OF THE AFTERIAL PRESSURE IS ACCOMPANIED BY NORMALIZATION OF THE MYCCARDIAL CONTRACTILE FUNCTION UNLY PATIENTS WITH A NONPERSISTENT RISE OF THE ARTERIAL PRESSURE. IN RELATIVELY LARGE DOSES OF ISOBARINE, NOTWITHSTANDING THE DAVIOUS DECLINE OF THE ARTERIAL PRESSURE, SIGNS OF LATENT CARDIAC INSUFFICIENCY REMAIN ADDITIONALLY SMALL DUSES OF ISOLANIDE OF DIGUXINE.  FACILITY:  KIEV. N-1 INSTITUT KLINICHESKOY REDITSINY IM. N. D. STRAZHESKO.	3.0
	UNCLASSIFIED	

USSR

UDC 669.15.018.8,620.196.2

KOKIN, S. D., ZHADAN, T. A., and GULYAYEV, A. P.

"Ferritic Steel Susceptibility to Intercrystalline Corrosion and Embrittlement"

Dokl. XXX Nauchno-tekhn. konferentsii. Mosk. in-t khim. mashinostr (Papers Presented at Thirtieth Scientific and Technical Conference of Moscow Institute of Chemical Machinery), Vol 2, vyp. 1, Moscow. 1970, pp 115-118 (from FZh-Metallurgiya, No 3, Mar 71, Abstract No 31581 by V. Olenicheva)

Translation: On the basis of intercrystalline corrosion (IC) susceptibility tests, hardness measurements, and metallographic analysis, a temperature-time dependence range of IC susceptibility is constructed for OKhl7T, Kh25T, and Kh28 steels, as well as the steel group with 17% Cr and varying content of C (0.03-0.09%) and Ti (0.51-0.65%). The degree of Cr alloying affects the mechanical characteristics of the steels. At the same temperatures and with the same holding periods Kh25T and Kh28 steels have greater hardness and strength than OKhl7T steel. C and Ti content, as well as grain size, greatly affect the onset of IC and embrittlement susceptibility. Steel with a low C content (0.03%) is not prone to embrittlement. The IC susceptibility of graphy with Two titles.

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USSR

WDC 669.15.018.8

## ZHADAN, T. A.

"Effect of Molybdenum on Properties of Ferritic-Austenitic Chromium-Manganese-Nickel Steels"

Sb. tr. TsNII chern. metallurgii (Collection of Works of Central Scientific Research Institute of Ferrous Metallurgy), 1970, vyp. 77, pp 76-82 (from RZh-Metallurgiya, No 3, War 71, Abstract No 31587 by authors)

Translation: A study is made of the effect of No (1-3%) on the structure and properties of brand OKh18G8N2T economically alloyed (nickel) steel, of the ferritic-austenitic class, which is being introduced into the chemical industry. Increase in No content ~2% affects the relation between the structural components of steel, and this leads to a rise in strength properties of steel and a lowering of plastic properties; at the same time it intensifies embrittlement susceptibility of steel and negligibly affects total corrosion resistance. Steel containing 2% No (conventional designation OKh18G8B2N2) possesses the best combination of mechanical and anticorrosion properties. Five illustrations. Two tables. Bibliography with five titles.

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USSR

UDC 669.15.018.8,669,782

ZHADAN, T. A., and BABAKOV, A. A.

"Effect of Silicon on Structure and Properties of Chromium-Nickel Steels of Kh20N2O and Kh15N2O Type"

Sb. tr. TsNII chern. metallurgii (Collection of Works of Central Scientific Research Institute of Ferrous Metallurgy), 1970, vyp. 77, pp 82-86 (from RZh-Metallurgiya, No 3, Mar 71, Abstract No 31594 by authors)

Translation: Kh15N2O steel with the addition of up to 6% Si and Kh2ON2O steel with up to 5% Si possess homogeneous austentite structure and stable properties. The more homogeneous the steel structure, the less is their embrittlement susceptibility. The authors establish the temperature-time embrittlement range of high-silicon steels, as well as the nature and composition of embrittlement-inducing excess phase. One illustration. Two tables. Bibliography with three titles.

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USSR

UDC:669.1.017.14.018.84

ZHADAN, T. A.

"Influence of Molybdenum on the Properties of Ferritic-Austemitic Chrome-Manganese-Nickel Steels"

Spetsial'nyye Stali i Splavy [Special Steels and Alloys--Collection of Works], No 77, Metallurgiya Press, 1970, pp 76-82

Translation: Results are presented from a study of the influence of molybdenum (1-3%) on the structure and properties of type OKhlSG8H2T nickel ferriticates austenitic steel, used in the chemical industry.

An increase in the content of molybdenum to over 2% significantly influences the relationship of structural components of the steel, leading to an increase in strength and decrease in ductility, and also increases the tendency of the steel to embrittlement, and influences corrosion resistance slightly.

The best combination of mechanical and anticorrosion properties is that of the steel containing 2% Mo (type 0Kh18G8N2M2). 5 figures; 2 tables; 5 biblio.

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USSR

UDC 669.1.017.15'24'26-194

ZHADAN, T. A., and BABAKOV, A. A.

"Influence of Silicon on the Structure and Properties of Kh20N2O and Kh15N2O

Spetsial'nyye Stali i Splavy [Special Steels and Alloys--Collection of Works], No 77, Metallurgiya Press, 1970, pp 82-86

Translation: A homogeneous austenitic structure and stable properties are characteristic of Kh15N2O steel with up to 6% Si and Kh20N2O steel with up to 5% Si. The more homogeneous the structure of the steels, the less tendency they show steels and the nature and composition of the excess phase causing embritlement are determined. 1 figure; 2 tables; 3 biblio. refs.

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#### Steels

USSR

UDC 669.14.018.841

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BABAKOV, A. A., ZHADAN, T. A. IEVIN, F. L., POSYSAEVA, I. I., and FEL DGANDLER, E. G. (Central Scientific Research Institute of Ferrous Metallurgy imeni
I. P. Bardin)

"Low-Carbon Corrosion-Resistant Steels"

Moscow, Stal', No 9, Sep 72, pp 836-839

Abstract: A survey is presented of investigations on corrosion-resistant -- especially low-carbon -- chromium-nickel steels of the austenitic class. The effect of various components of chemical composition on the susceptibility of the steels to intercrystalline corrosion is considered. It is recommended that carbon content in the steel be reduced and that the solid solution be stabilized by special alloying to prevent the formation of excess phases (G-phase) or carbides on the grain boundaries. The corrosion properties of new, recently developed steels of the austenitic and ferrita-austenitic class are discussed.

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USSR UDC 620.196

ZHADAN, T. A., BABAKOV, A. A., SHARONOVA, T. N., and VASIL'YHVA, N. M., Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin, State Scientific Research Institute of the Nitric Industry

"Investigation of the Inclination of 000Kh20N20S5 (ZI-52) Steel to Intercrystalline Corrosion"

Moscow, Zashchita Metallov, Vol 9, No 1, Jan-Feb 73, pp42-44

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Abstract: 000Kh20N20S5 (ZI-52) steel, in spite of its carbon content, shows a tendency to intercrystalline corrosion (ICC) in strong nitric acid in zones of welded joints or after tempering at 700-800°, but the steel retains high resistance to ICC in tests by the AM (GCST 6032-52) method after analogous processing. The tendency of ZI-52 steel to embrittlement and to ICC (after tests in 23 n. HNO, on the temperature and duration of tempering are discussed by reference to diagrams. On the basis of experimental data, 000Kh20N2OS5 (ZI-52) steel which has been subjected to a 23 n. HNO, reaction at 85-10C° can be recommended only in the hardened state for unwelded constructions or with obligatory hardening after welding. Three figures, four bibliographic references.

USSR

WC 669.15.621.785.79

BERNSHTEYN, K. L., ZHADAN, V. T., KHENSGER, K. E., Moscow Institute of Steel and Alloys

"Structure and Properties of 50KhGA Steel After High-Temperature Thermomechanical Treatment"

Moscow, Izvestiya VUZOv: Chernaya Metallurgiya, No 11, 1972, pp 150-153

Abstract: The authors investigate the kinetics of variation in the structure (austenite grain size and shape) and mechanical properties of 50KhGA spring steel during post-deformation aging before quenching. It is found that the structural changes and mechanical properties resulting from post-deformation delays of 0.2-10 s depend on the state of the initial austenite, the deformation temperature and the degree of reduction. It is shown that there is no direct correlation between the reduction in size of the austenite grain as a result of recrystallization and the increase in strength characteristics after ausforming of 50KhGA steel. The improvement in mechanical properties can be attributed to a well-developed substructure formed as a result of dynamic polygonization. Optimum ausforming schedules for 50KhGA steel are formulated and recommended on the basis of experimental data and analysis of the literature.

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#### Forming

USSR

UDC 621.771.8

ZHADAN, V. T., KULAK, Yu. Ye., and KULAK, G. K.

"Effect of the Rate of Reductions and Temperature-Speed Conditions on Roll Wear in Rolling H-Beams"

Plasticheskaya Deformatsiya Metallov i Splavov, Moscow, No 64, "Metallurgiya," 1970, pp 125-129

Translation: A dependency is established between the intensity of wear on roller rolls made of chrome-nickel cast iron with lamellar graphite, and the length of the area of deformation, lateral reduction of the flanges, speed of deformation, and temperature of the metal when rolling H-beams. The dependencies obtained make it possible to calculate the intensity of wear, pendencies obtained make it possible to calculate the intensity of wear, taking into account the actual operating conditions of roller rolls in producing H-beams. Six figures and five bibliographic entries.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203810002-3"

USSR

UDC 621.178.15

ZHADAN, V. T., KULAK, Yu. Ye., and KULAK, G. K.

"Investigation of the Effect of Chemical Composition on the Eardness of Rolls Made of Modular Cast Iron"

Moscow, Plasticheskaya Deformatsiya Metallov i Splavov, "Metallurgiya" Publishing House, No 64, 1970, pp 72-79

Translation: The correlation analysis method is used to study the effect of chemical elements and the casting diameter of rolls made of modular cast iron on the hardness of the rolls. A considerable positive effect on roll hardness is established for chromium and magnesium, while a negative effect is established for silicon and the casting diameters of the rolls. In order to receive high hardness indicators, it is essential to maintain the chromium content at the upper limit, and silicon at the lower limit. As a result of the study, an equation is obtained and a nomogram constructed for determining the hardness of rolls as a function of the content of chromium, magnesium, and silicon, and dependent on the roll diameter; in this way, it is possible to eliminate the labor-consuming operation of selecting templets for measuring hardness and the measurement operation. Two illustrations, three tables, and four bibliographic entries.

USSR

un: 669.1:338

ZHADAN, V. T., and STEFANOV, V. Ye.

"The Economic Efficiency of Rolling Channels on a Structural Mill by the Gradual Bending of Flanges Method"

Moscow, Plasticheskaya Deformatsiya Metallov i Splavov, "Metallurgiya" Publishing House, No 64, 1970, pp 87-91

Translation: Use of the gradual flange bending method in rolling channels at structural mill 650 of the Azovstal' Plant resulted in a reduction in the depth of groove incisions in rolls and the size of the initial diameters of the roll barrels, an increase in their resistance to wear, replacement of steel rolls on the precleaning stand with a trio of cast iron ones, rolling in a negative field of tolerances and decreasing the average mass of a running meter of profile, decreasing the width of the beads and locating the doubler-passes, etc. All this made it possible to reduce expenditures for rolls and lower the average running meter of profile's mass by one percent, which produced an annual economic benefit of 474,960 rubles in rolling about 150,000 tons of channels. One table and four bibliographic entries.

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USSR

UIX 621.771.8

POLYKHIN, P. I., BERKOVSKIY, V. S., ZHADAN, V. T., FEDOSOV, B. M., STETSENKO, N. V., OSADCHIY, N. A., AVRUNIN, P. M., HIN KOVTANYUK, Yu. P.

"Developing New Technology for Rolling the PSh-20 Section from Kh18N1OT Steel on the 550 Mill"

Moscov, Plasticheskaya Deformatsiya Metallov i Splavov, "Metallurgiya" Publishing House, No. 64, 1970, pp 106-113

Translation: A brief description is given of the technology for rolling the shaped sections being studied. An analysis is made of the existing rolled pass design and deformation parameters by templets, and data are given from an investigation of the power parameters of rolling. On the basis of an analysis of the data received and the technical-economic indicators, a new technology for the process of rolling the sections under study is developed. Eleven illustrations and one table.

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USSR

UDC 621.771.8

ZHADAN, V. T., and KULAK, Yu. Ye.

"The Hardness of Rolls in Rail and Structural Mills"

Moscow, Plasticheskaya Deformatsiya Metallov i Splavov, "Metallurgiya" Publishing House, No 64, 1970, pp 116-121

Translation: It is established, on the basis of an analysis of used sets of rolls on rail and structural mills and at structural mills, that in order to increase the service life of rolls, their minimum hardness should be raised by 50-60 HB, and the maximum by 20-40 HB, beyond the average hardness values of rolls delivered to metallurgical plants. Equations were derived for determining the hardness of a roll at any depth from the surface layer, if the hardness at a depth of 75 or 100 millimeters is known. A principle for selecting roll insets by their hardness is recommended. Three illustrations and one table.

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USSR POLUKHIN, P. I., ZHADAN, V. T., BERKOVSKIY, V. S., FEDOSOV, B. M., and	í en
DDVIIVHOV. B. N.	
"An Investigation of Forming in Flange Panses during Rolling of Stainless	
Steel"  Noscow, Plasticheskaya Deformatsiya Metallov i Splavov, "Metallurgiya"  Noscow, Plasticheskaya Deformatsiya Metallov i Splavov, "Metallurgiya"	
Publishing House, No C4, 1910, Fr 19	£ .
Translation: The results of an experimental study of the forming process during the rolling of square billets of Khi8NlOT steel in open-flange passes during the rolling of square billets of Khi8NlOT steel in open-flange passes during the rolling of square billets of khi8NlOT steel in open-flange passes and billet are considered. Selection of the geometric parameters of the pass and billet are considered.	
is substantiated. Results at the near and the amount of roughing.	
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경험화학교육 경험 이 시간 이 경우 사고 그 사람들은 경험을 보고 있다. 그 사람들이 다른 사람들이 되었다. 2. (1) 1987년 - 사람들은 이 기업 전 기본 시간 (1) 1983년 1일	
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the 611.771.151.07

USSR

ZHADAN, V. T., KULAK, Yu. Ye., and VORONINA, V. A., Moscow Emericans of Steels end Alloys; Ukrainian Scientific Research Institute of Matals

"Strength Properties of Steel Rolls"

Moscow, Matallurg, No 8, Aug 70, pp 40-42

Abstract: In selecting materials for structural and merchant rolls, and primary indicators are scrength properties. Thus, a study was made of the team a scrength, transverse scrength, torsional scrength, and endurance limbs of a nesser of screds. Test duca on 90thr, 60khN, U10, and 150khNM aceals are cited. The arranges properties of hyperturectic heat-treated steel and 10-30% higher that there of 610 pot subjected to such creatment. A principal property of Woll three is in torsions, acremeth. The tensile strength-t. Welough strength was a cruston with an increase in strength of the steel; in WiO steel, the cursional contents is somewhat higher than its tensile strongth, while the apposite is oncerved an 55Kh, 2003 and 90KhV steels. An essential indicator qualitying a steel for roll have the is the fatigue limit. It accounts for only 46% of the tension strength. The farigue limits of 60kmM and 90kmT forged schools are among the highest and ward the same value, while short of 55Kh are 10- 57 Lever. Collecquently, roles from 55Kh and 90KhF, With respect to their strength projection, 1/2

CIA-RDP86-00513R002203810002-3" **APPROVED FOR RELEASE: 09/01/2001** 

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ZHADAN, V. T	., et al, Metalla	FS, 100 9, 4	ug 70, pp -0	<del> 12</del>			
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USSR

VDC 612.821:612.819:612.825+612.822.3

IGNAT'YEV, D. A., KARNUP, S. B., MURADOVA, I. O. and ZHADIN, M. N., Institute of Biological Physics, USSR Academy of Sciences, Pushchino-na-Oke

"On the Interaction of Cortical Induced Potentials on the Maboration of a Conditioned Reflex"

Moscow, Doklady Akademii Nauk SSSR, Vol 213, No 2, 1973, pp 490-491

Abstract: An attempt was made to develop concrete characteristics stipulating similarity between induced potentials in the cerebral visual and motor cores of rabbits registered during the early stages of defensive conditioned reflex elaboration. The coefficient of cross-correlation, presentation of potentials as a superposition of transient oscillations and factor analysis were used. It was found that the coefficient of cross-correlation increased, reached a maximum and then fell with a concomitant decrease in motor reactions. This is shown to be due to the convergence of frequency and phase of responses in the theta region. These results are said to show that Livanov's concepts on the special role of theta-rhythm synchronization in stimulation transmission may be extended to cortical induced potentials.

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IV2 O11 UNCLASSIFIED PROCESS ING DATE--20N0V70
ITILE--PLATINUM, II, ETHYLENEDIAMINETETRAACETATE SOLUTIONS -U
AUTHOR-(03)-YEZERSKAYA, N.A., KISELEVA, I.N., ZHADANOV, E.V.

CEGNTRY OF INFC--USSR

SCURCE--ZH. NEORG. KHIM. 1970, 15(4), 1046-50

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PLATINUM COMPLEX, POLARGGRAPHIC ANALYSIS, ETHYLENEDIAMINE

CGNTROL MARKING--NG RESTRICTIONS

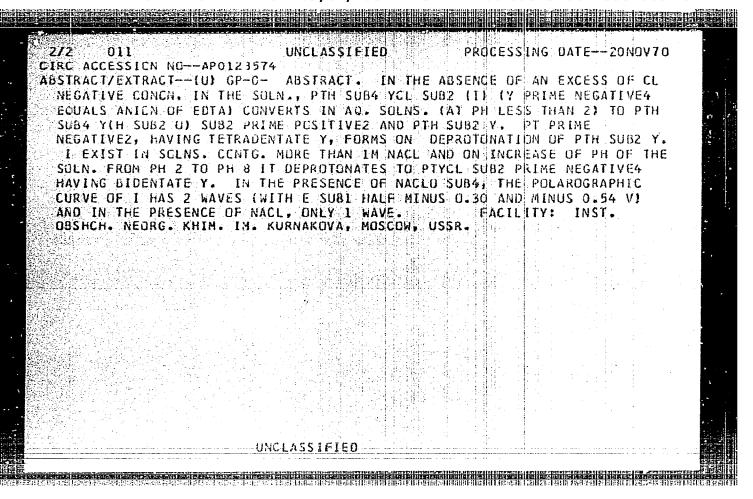
DGCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1152

STEP NG---UR/0078/70/015/004/1046/1050

CIRC ACCESSICN NO--AP0128574

UNCLASSIFIED



USSR

UDC 51:330.115

ZHADANOV, O. K.

"Composition of Schedules on a Network Graph with Limited Resources"

Sistemy Raspredeleniya Resursov na Grafakh [Systems for Distribution of Resources on Graphs -- Collection of Works], Moscow, Acad. Sci. USSR Computer Center, 1970, stract No 6 V557 from the Introduction).

Translation: Suppose a network graph is written, in which for each operation (i, j), a duration t ij of its performance is determined with a fixed level (intensity) q(k) of utilization of the kth type of resources, which is the defining type for this operation. Suppose the limitation on the daily utilization of resources is fixed by the vector

 $Q(t) = \{Q(t)(t), \ldots, Q(t)(t)\}.$ 

considering that neither intensification nor interruption of the performance of any operation is permitted, the problem is to determine calendar moments of beginning and completion of operations such that the time of performance of the entire combination of operations will be minimal and at any moment in time, limitations placed on none of the resources will be disrupted, i.e.

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USSR Computer Center,	my Raspredeleniya Resurs 1970, pp 49-62.	ov na Grafakh,	Moscow, Aca	ad. Sci.	
	$\sum_{(i,\ D\in F(t)} q_{ij}^{(k)} < Q^{(k)}(t),$				
where F(t) is the worki	ing front				
				* *	

USSR

UDC 617-001.18-08

ZHADENOV I. 1., CHUYENKOV, V. F., and GORFINKEL', I. V., CHair of Hospital Surgery, Therapeutic Faculty, Saratov Medical Institute

"Recovery of Patients from Deep Hypothermia"

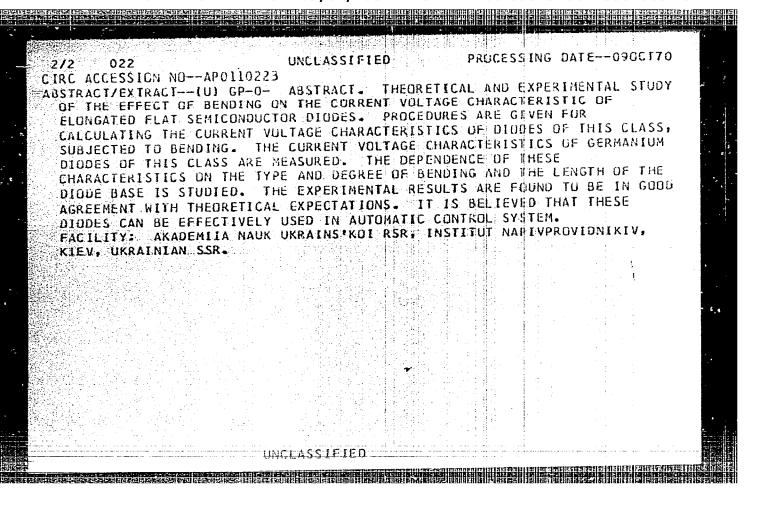
Moscow, Khirurgiya, No 1, 1970, pp 126-127

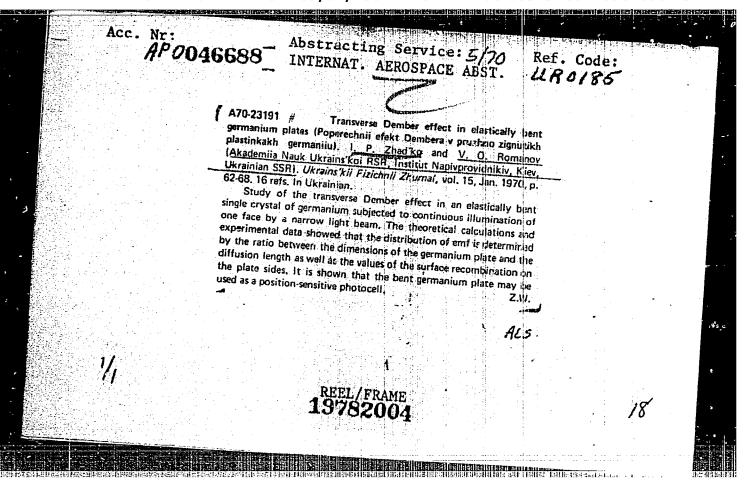
Abstract: Excerpts from the case histories of two drunks brought to the hospital unconscious (the rectal and axillary temperatures were 24.6° C and 23.6° C in one and 22.8° C and 21.8° C in the other) and successfully resuscitated by active therapy are presented. Therapy included transfusions of whole blood, 10% glucose solution, blood substitute, protein hydrolysates, intravenous injection of sodium bicarbonate, vitamins, hydrocortisone, novocaln block, and oxygen therapy.

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UNCLASSIFIED PROCESS L/2 022 TITLE—TENSODIODE EFFECT DURING THE BENDING OF ELONGATED TITLE—TENSODIODE EFFECT DURING THE BENDING OF ELONGATED	NG DATE- SEMICONDU	-090CT70 CTOR	
TITLE-TENSODIODE EFFECT DORTHO DIDDE PLATES -U- AUTHOR-(04)-GRIBNIKOV, Z.S., ZHAUKO, P. ROMANDV, V.O.,	SERDEGA,	B • K •	
COUNTRY UF INFOUSSR SOURCEUKRAIN KII FIZICHNII ZHURNAL, VOL. 15, FEB. 1970,	p 300-31	. <b>7</b>	3
DATE PUBLISHED70			
SUBJECT AREAS—ELECTRONICS AND ELECTRICAL ENGR.  TOPIC TAGSSEMICONDUCTOR DIODE, ELECTRIC CURRENT, ELECTROPIC TAGS-SEMICONDUCTOR DIODE, ELECTROPIC ELECTROPIC TAGS-SEMICA DIODE, ELECTROPIC TAGS-SEMICA DIODE,	IC PROPE	RTY,	
EDNTROL MARKINGNO RESTRICTIONS			
DOCUMENT CLASS—UNCLASSIFIED PRUXY REEL/FRAME—1991/0335  STEP NOUR/0185/70/01	5/000/030	0/0317	
CIRC ACCESSION NOAPO110223 UNCLASSIFIED			





USSR

ZHAFYAROV, A. Zh.

UDC: 51

"Dual Approach to One of the Forms of the Trunkline Theorems"

Sb. tr. In-t mat. Sib. otd. AN SSSR (Collected Works. Institute of Mathematics of the Siberian Department, Academy of Sciences of the USSR), 1972, 7(24), pp 5-13 (from RZh-Kibernetika, No 7, Jul 73, abstract No

Translation: The paper is devoted to a study of the asymptotic behavior of an optimum trajectory in Neumann and Neumann-Gale models in terms of the characteristic of the trajectory. Models are considered in which the trunkline theorem in strongest form occurs.

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USSR ZHAFYAROV, A. Zh. UDC: 51 "Trunkline Theorem in Strongest Form" Sb. tr. In-t mat. Sib. otd. AN SSSR (Collected Works. Institute of Mathematics of the Siberian Department, Academy of Sciences of the USSR), 1972, vyp. 7(24), pp 14-25 (from RZh-Kibernetika, No 7, Jul 73, abstract No Translation: So-called \$\phi\$-optimum trajectories are considered for which the trunkline theorem in strongest form occurs in Neumann models, and convergence of optimum trajectories to the Neumann boundary occurs in Gale models. Neumann-Gale models are considered which have a unique equilibrium cost vector. An important class of models is considered in which these theorems hold. 1 A STATE OF THE STA

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UDC: 51

ZHAFYAROV, A. Zh.

"Main-Line Theorem in Its Strongest Form"

Sb. tr. In-t mat. Sib. otd. AN SSSR (Collection of Works in the Institute of Mathematics, Siberian Division, Academy of Sciences, USSR) No 7(24), 1972, pp 14-25 (from RZh--Matematika, No 7, 1973, Abstract No 7V542)

Translation: The author considers the so-called 9 -optimal trajectories for which the main-line theorem appears in its strongest form in Neumann models, while in Geyl models the optimal trajectories converge to the Neumann limit. Neymann-Geyl models with the values of unit equilibrium vectors are considered. An important class of models in which these theorems occur is described. Author's abstract.

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UDC: 51

ZHAFYAROV. A. Zh.

"Dual Approach to One Form of the Main-Line Theorem"

Sb. tr. In-t mat. Sib. otd. AN SSSR (Collection of Works of the Institute of Mathematics, Siberian Division, Academy of Sciences, USSR) No 7(24), 1972, pp 5-13 (from RZh--Matematika, No 7, 1973, Abstract No 7V541)

Translation: This paper is devoted to investigation of the asymptotic behavior of the optimal trajectory in Neuman and Neuman-Geyl models through its characteristics. Models are examined in which the main-line theorem in its strongest form applies. Author's abstract.

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USSR

UDC: 51

ZHAFYAROV, A. Zh.

"Concerning Uniqueness of Equilibrium Prices in a Neumann Model"

Sb. tr. In-t mat. Sib. otd. AN SSSR (Collected Works. Institute of Mathematics, Siberian Department of the Academy of Sciences of the USSR), 1971, vyp. 2(19), pp 36-56 (from RZh-Kibernetika, No 5, May 72, Abstract No 5v445)

Translation: Various conditions are investigated under which the Neumann model has a unique equilibrium price vector. V. Malinnikov.

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UDC: 51

#### ZHAFYAROV, A. Zh.

"Main Line Theorem in One Model"

Sb. tr. In-t mat. Sib. otd. AN SSSR (Collected Works, Institute of Mathematics, Siberian Department of the Academy of Sciences of the USSR), 1971, vyp. 2(19), pp 7-35 (from RZh-Kibernetika, No 5, May 72, Abstract No 5V444)

Translation: The paper presents necessary and sufficient conditions for the initial state under which a main line theorem in special form holds in models of the Morishima type. Conditions are studied under which the rate of growth of the entire model coincides with the rate of growth of a submodel of some superposition of this model. V. Malinnikov.

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USSR

WC: 51

ZHAFYAROV, A. Zh.

"On a Generalization of the Nikaido Main Line Theorem in Strong Form"

Sb. tr. In-t mat. Sib. otd. AN SSSR (Collected Works. Institute of Mathematics, Siberian Department of the Academy of Sciences of the USSR), 1971, vpp. 2(19), pp 57-64 (from RZh-Kibernetika, No 5, May 72, Abstract No 57446)

Translation: A main line theorem in strong form is proved for a model with fixed technology in which a Neumann surface is stretched over a finite number of generatrices. V. Malinnikov.

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UDC 51

ZHAFYAROV, A. ZH.

"Uniqueness of Equilibrium Prices in a Neumann Model"

Sb. tr. In-t mat. Sib. otd. AN SSSR (Collection of Works of Institute of Mathematics, Siberian Department of Academy of Sciences USSR), 1971, vyp 2(19), pp 36-56 (from RZh-Matematika, No 5, May 72, Abstract No 5V445 by V. MALINNIKOV)

Translation: A study is made of various conditions under which a Neumann model has a unique equilibrium price vector.

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USSR

UDC: 621.382.2

ZHAGATA, L. A., KALNINYA, R. P., FELTYN', I. A., and FREYBERGA,

"Dielectric Films Obtained by Low-Temperature Oxidation of Tetraetoxysilane"

Riga, <u>Izvestiya Akademii nauk Latviyskoy SSR -- Seriya fizicheskikh</u>
<u>i tekhnicheskikh nauk</u>, No 5, 1972, pp 34-39

Abstract: Experimental research is described for the formation of films by oxidized tetraetoxysilane in the temperature range of 270-370°C in dry oxygen and in a mixture of oxygen and water vapor. Changes in the composition and characteristics of the films as a result of the changes in the deposition techniques were also observed in the course of these experiments. The specimen films were grown on chemically and mechanically polished n- and p-type silicon substrates in a device described in an earlier article published in this same journal (No 1, 1965, p 26) by the second and third authors named above. Film thickness was measured by the method of interference lines and film composition was determined by the method of infrared absorption. Electrical characteristics of the films were investigated by the MOS structure method. The authors are associated with the Physics-Energy Institute. Academy of Sciences of the Latvian SSR.

UNCLASSIFIED PROCESSING DATE--27NOV70'
TITLE--REFRACTORY MIXTURE FOR LINING THE IROW TROUGHS OF BLAST FURNACES

AUTHOR-(05)-PRYADKO, V.M., KOTOV, K.I., MAGALA, V.S., ZHAK, A.M., TKACH,

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 265,135

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970, DATE PUBLISHED--O9MAR70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--BLAST FURNACE, REFRACTORY MATERIAL, METALLURGIC PATENT,

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--3003/1060

STEP NU--UR/0482/TO/000/000/0000/0000

CIRC ACCESSION NO--AA0130095

2/2 010 CIRC ACCESSION NOAA0130099 ABSTRACT/EXTRACT(U) GP-O- AND BINDER HAS THE FOLLOW! ALUMINA BRICK (PARTICLE SI ALUMINA BRICK (PARTICLE SI (PARTICLE SIZE SMALLER THAT GOST TSMTU 4469 54) 200-50 PRIMES. FACILITY: INSTITUTE AND PETROVSKII,	ABSTRACT. A NG COMPN. (IN ZE FRACTION 0. ZE 5-10 MM) 90 N 0.09 MM) 400 , AND 80PERCEN	REFRACTORY M KG-M PRIME31 15-5 MM) 500- 0-1000, CRUSH -500, FE FREE T PHOSPHURIC	CRUSHED H -500, CRUSHE HED ALUMINA ( ZR (ACCORD ACID 180-20(	A FILLER IGH D HIGH BRICK ING TO
UNC	LASSIFIED		: [130] [10:1521-1521-1521-1521-1521-1521-1521-1521	17 15 17 15 18 16 16 16 16 16 16 16 16 16 16 16 16 16

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UDC: 681.3

ZHAK, D., LUKINA, V., NASHLYUNAS, R.

"Experiment in Use of the 'RUTA-701' Device in the System of the Soviet Central Statistical Administration, and Calculations of the Effectiveness of its Use"

V sb. Elektronno-vychisl. tekhn. i programmir. (Computer Technology and Programming--collection of works), vyp. 3, Moscow, "Statistika", 1970, pp 39-49 (from RZh-Kibernetika, No 7, Jul 71, Abstract No 77699)

Translation: A description is given of the first experiment in using the "RUTA-701" reader in the system of the Soviet Central Statistical Administration for automatic readout of normalized handwritten symbols from blanks containing statistical information. Calculations are presented on the economic effectiveness of using this device. Authors' abstract.

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UDC: 51

ZHAK, S. V.

"On Realization of the Method of Mutual Concessions in the Case of Various Goal Functions"

Tr. 4-y Zimm. shkoly pc mat. programmir. i smezhn. voprosam, 1971, vyp. 2 (Works of the Fourth Winter School on Mathematical Programming and Related Problems, 1971, No 2), Moscow, 1971, pp 18-20 (from RZh-Kibernatika, No 5, May 72, Abstract No 5V385)

Translation: The author enumerates various approaches to the problem of multiple-test optimization including the method of mutual concessions which requires selecting a compromise decision giving identical relative losses in advantage with respect to each criterion. In the author's opinion this method is the simplest and most justified logically. In the case of a linear problem, this scheme is most readily realized by adding a control module to standard linear programming schemes. M. Kezakova,

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UDC 577.4

ZHAK. S. V., MELKADZE, A. G.

"Optinization of Operating Time between Repairs"

V sb. Teoriya i praktika mash. obrabotki inform. (Theory and Practice of Machine Data Processing -- collection of works), Rostov-na-Donu, 1971, pp 63-70

Translation: See RZh-Matematika, 1972, 2V544.

USSR

VDC 51

# ZHAK, S.V.

"Fealization of Mutual-Concessions Method With Some Objective Functions"

Tr. 4-y Zimn. shkoly po mat. programmir. i smezh. voprosam. 1971, vyp. 2. (Proceedings of Fourth Winter School on Mathematical Programming and Related Questions, 1971, vyp. 2), Moscow, 1971, pp 18-20 (from RZh-Matematika, No 5, May 72, Abstract No 5V385 by M. KAZAKOVA)

Translation: The author enumerates certain approaches to the problem of multicriterion optimization, including the mutual-concessions method, which requires the selection of a compromise solution yielding the same relative losses in winning according to each criterion. In the author's opinion, this method is simplest and logically justified. In the case of a linear problem this scheme is easily realized by the addition of a control block to standard linear-programming programs.

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- 20 -

USSR

UDC 612.833.755-057:007.51

GORSHKOV, S. I., SHARDAKOVA, E. F., and ZHAKHMETOV, Ye. G., Institute of Labor Hygiene and Occupational Diseases, Academy of Medical Sciences USSR, Moscow

"Research on the Latent Time of Tendon Reflexes of Keyboard Computer Operators"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 7, 1973, pp 33-36

Abstract: Latent times of hand tendon flexion-extension reflexes and knee reflexes of 18-25-year-old female keyboard computer operators were studied as indexes of the functional state of the neuromuscular apparatus. Within 1 work day latent times of hand tendon reflexes increased significantly, more so for the left hand (flexion -- 39.3, extension -- 19 msec) than the right (flexion -- 8.5, extension -- 5.4 msec), probably because the left hand dominates in keyboard operation. Latent times of the knee reflex increased insignificantly, more so for the left leg. Latent times of all reflexes also increased during the work week, probably due to fatigue buildup. Increases were larger for the left hand (flexion -- 13.5, extension -- 1.4 msec) than the right (flexion -- 7.0, extension -- 8.0 msec) and insignificant for the knee reflex. In all cases the initial latent time was longer for left appendages. It is concluded that tendon reflexes are adequate and sensitive indexes of the state of the motor apparatus.

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USSR

ZHAKHAROV, A. V., SAMARSKIY, A. A., SVESHNIKOV, A. G.

"Application of the Large Particle Method to Calculating the Motion of a Charged Beam in an Electromagnetic Field, Considering the Space Charge of the Beam"

Moscow, Vychislitel nyye Metody i Programmirovaniye, XVI, 1971, pp 225-243

Abstract: The large particle method is used in the nonstationary problem of calculating the motion of a charged beam in an electromagnetic field, considering the space charge of the beam. The study was made to discover a number of procedural problems in particular, the problems connecting with selecting the numerical method of determining the charge particle density. The essence of the method consists in subdividing the region of existence of the charge at the initial point in time into small volumes  $\Delta V$  and concentrating each charge contained in the volume  $\Delta V$  at the center of inertia of the volume  $\Delta V$ . The charge obtained in this way is considered a "large particle." The i-th particle contains  $M_1 >> 1$  elementary charges.

The motion of the large particles is defined by the system of equations coinciding with respect to form, with the equations of motion of an elementary charge:

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dr/dt = v, dv/dt = e/m(E + (1/c)[v, ii]).

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203810002-3"